Training Catalogue
21/05/2020

KAÏNA-COM
TRAINING CATALOGUE

Fundamentals of Modern Technologies at Work

Introduction to the new world of work including: Artificial Intelligence, Augmented Reality, Virtual Reality, Robotics, Cybersecurity, …

Nos locaux
KAÏNA-COM France
LE CARRÉ HAUSSMANN II
6 Allée de la Connaissance
77 127 Lieusaint

Contact
+33(0)9 50 20 91 64

E-mail
info@kaina-com.fr

Site Internet
www.kaina-com.fr

KBP006 – Fundamentals of the Technology World of Work

Reference	KBP006
Experience	☒ Beginner ☒ Intermediate ☐ Advanced
Duration	Training Program (100 Hs): • 23 x 4h each day
Training Method	☐ I: i-learning, individual training (web-based training) ☒ V: v-learning, virtual class ☐ C: c-learning, classroom training **KAÏNA-COM** LE CARRÉ HAUSSMANN II, 6 Allée de la Connaissance 77127 Lieusaint - France
Price	5.250,00 € HT
Prerequisite	None
Audience	Anyone

Continued on next page

KBP006 – Fundamentals of the Technology World of Work, Continued

Objective

This course is the most focused in the market for introduction to the new world of work.
With interactive tutorials which allows each participant to learn within their own rhythm, backed up by our mentors which will support, demonstrate and enrich during study.
Each topic has both theoretical and practical experimentation, so participants can get experience, which will make studying more effective.
We have added a special hardware-kit that goes with the syllabus.
Our 23-meetings course includes the following topics:

- Artificial Intelligence,
- Augmented Reality,
- Virtual Reality,
- Robotics,
- Cyber,
- Programming,
- Cellular,
- 3D-Printing
- Library-Science.

Continued on next page

KBP006 – Fundamentals of the Technology World of Work, Continued

Course Contents

Course Contents :

Table 1: KBP006 - Course Contents - AI

Chapter	Description
1	• Introduction to AI (what & why) • Algorithmics and differentially between AI based and non AI based programs. • Basic AI engine • Basic concepts in AI: – API – Server – Cloud – System Structure
2	• How does face recognition work? – Parameters – Challenges • Assembly: – Connecting camera and computer – Using the software – Connecting to the cloud • Practical activation: – Filming – Uploading to the cloud – Identification indicator

Continued on next page

KBP006 – Fundamentals of the Technology World of Work, Continued

Course Contents, continued

Table 2: KBP006 - Course Contents - AR & VR

Chapter	Description
1	• Itroduction to AR & VR • Differences between AR & VR • Practical work with AR platform • Development of a basic character • Development of a complex character
2	• Basic Exporting of characters • Experiencing practical application usage • Basic transplantation of character • Complex transplantation of a complex character in AR • Experiencing a game in VR

Continued on next page

KBP006 – Fundamentals of the Technology World of Work, Continued

Course Contents, continued

Table 3: KBP006 - Course Contents - Robotics

Chapter	Description
1	• Arduino software and hardware • Project build and components • Code & "Bricking" • Led Matrix programming • Basic building of components: – Engines – Wheels – Controller – Arduino
2	• Writing basic movement code • Ultrasonic sensors • Connecting the sensor to the robot • Basic programming using Arduino • Practical – Inputs and Outputs of sensor • Ranging and Radar • Connecting the robot to the App, Practical activation

Continued on next page

KBP006 – Fundamentals of the Technology World of Work, Continued

Course Contents, continued

Table 4: KBP006 - Course Contents - Cyber

Chapter	Description
1	• Open Systems Interconnection model (OSI – 7 Layers Model) • Introduction to Cyber Security • Practical experimentation of Network Mapping
2	• Packet Analyzers • Wireshark • Analyzing basic information
3	• Pen Testing • Fundamentals of Cyber Warfare • Cyber Security forums and communities • Practical designing Cyber Security in a complex system
4	Introduction to Cyber Security • Hacking History • Cyber Attacks Trends • External and Internal threats • Hackers Types • Threats and attacks • Security Criteria's • Threat Taxonomy Models summary

Continued on next page

KBP006 – Fundamentals of the Technology World of Work, Continued

Course Contents, continued

Chapter	Description
4	Basics of Security Management • Security Layers • Defending concept according OSI Layers • Security modules and functionalities • NAT- Network Address Translation • Firewalls Types • Network Access Control (NAC) • IDS and IPS • Encryption protocols: IPSec, TLS and SRTP • Replay Attacks Protection • Server Hardening TCP/IP vulnerabilities • Network Layer (IP) services – 3rd Layer • IP Header Structure • MTU and Fragmentation process • IP Addressing – issues and solutions – - ARP, DHCP, NAT • Transportation Layers: TCP, UDP, SCTP

Continued on next page

KBP006 – Fundamentals of the Technology World of Work, Continued

Course Contents, continued

Chapter	Description
5	Introduction to Cryptography • Public and Private keys • Symmetric and Asymmetric encryption keys • DES and Triple DES • AES and RSA methods MiTM challenge and confidentiality solutions • What is TLS • What is IPsec • Applications over TLS and IPsec Inspection and interception Tool – Hands-on • Introduction to Wireshark • Getting Started • Capturing Packets • Color Coding • Sessions Filtering methods• Inspecting Packets • Network Topology studying • MAC Addresses and manufacturers • 3rd layer and IP Addresses analysis • Open ports at 4th Layer Analysis • Call flow analysis • Traffic analysis and eavesdropping • Live capture and real-time interception

Continued on next page

KBP006 – Fundamentals of the Technology World of Work, Continued

Course Contents, continued

Chapter	Description
6	Firewall • PFF, Proxy GW, Stateful Inspection • Management menu • Rules and policy IPTables Firewall • What is IPTables? • Chains and Chain Policy • Creating Rules and Rules Examples • Connection States • User Defined Chains • Logging Events/Packets • Advanced Examples • Managing IPTables Firewall Network and Vulnerabilities Scanning • Basic Scanning Techniques • Discovery Option • Operation System Detection • Nmap Script Engine • Nmap GUI • Vulnerabilities Information Sources • Vulnerabilities Scanners

Continued on next page

KBP006 – Fundamentals of the Technology World of Work, Continued

Course Contents, continued

Chapter	Description
7	Kali Linux • What is Kali Linux? • Some Kali Facts • Installing Kali Linux • Tools Categories • Kali Desktop • Kali Top Tools • Kali Linux Alternatives Network Scanning - Hands-on Session • NMAP - Networks Scanning for Topology analysis and network Mapping • OpenVAS for vulnerabilities scanning and analysis Services inspection – Hands-on • Numbers Harvesting • Conferences eavesdropping • Password capture Firewall - Hands-on Session • FW Rules setting • Denial of Service and DDoS attacks • Port scanning and vulnerabilities • Blocking scenario

Continued on next page

KBP006 – Fundamentals of the Technology World of Work, Continued

Course Contents, continued

Chapter	Description
8	Certificates and Authentication process • Certificates and X.509 ITU-T Standard • HTTP digest authentication • Authentication scheme for a trusted domain • Authentication Challenges Penetration Testing • What is Penetration Testing? • Reasons for Pen Testing • Hackers and Pen Testing • Vulnerabilities • What do we test? • Pen Testing Phases • Types of Testing • Areas of Penetration Tests • References • Network Penetration - Hands-on Session

Continued on next page

KBP006 – Fundamentals of the Technology World of Work, Continued

Course Contents, continued

Chapter	Description
9	Wireless Network penetration- Hands-on Session • John the Ripper/Crunch • Brute-force search • Brute-force attack • Password cracking/ WPA2 crack Security Summary • Policy enforcement • Organization Security personal and hierarchic • Chief Information Security Officer – CISO• Penetration Tester / Hacker • Forensics • Information Security Administrator: ISAD • Information Security Auditor • Application Development Security Expert • InfoSec Systems Project Manager • InfoSec Incident Expert • Physical InfoSec Expert • Behavior Analysis Expert and To-Do-List

Continued on next page

KBP006 – Fundamentals of the Technology World of Work, Continued

Course Contents, continued

Table 5: KBP006 - Course Contents - Programming

Chapter	Description
1	• Fundamentals of programming languages • Practical design of basic HTML page • Basic design using CSS
2	• Introduction to Java Script • Practical experimentation with JS scripting • Manipulations and changing of code
3	• Introduction to Python programming language • Working environment • Variables • Conditions • Loops • Strings & Lists

Continued on next page

KBP006 – Fundamentals of the Technology World of Work, Continued

Course Contents, continued

Table 6: KBP006 - Course Contents - Cellular

Chapter	Description
1	• Cellular network structure • IMEI, Sim numbers • Network mapping and weaknesses • Cellular network fraud
2	• Cellular device structure • Practical experimentation of assembly and dis-assembly of a cellular device • Guide to choosing the device the best suits your needs • Assemble a hardware kit for a device, balancing the different needs

Table 7: KBP006 - Course Contents - Library Science

Chapter	Description
1	• Structured databases • Search engines • Retrieve & Detect skills • Business data • Social networks • Geographical knowledge

Continued on next page

KBP006 – Fundamentals of the Technology World of Work, Continued

Course Contents, continued

Table 8: KBP006 - Course Contents – 3D Print

Chapter	Description
1	• Introduction to 3D Printing • Technological principles • Various printer types • Basic tools • "Grinning" models • Practical use of 'Tinkercad' design tool
2	• Managing a project in 3D printing, end to end + preparation for print
The End	• Q&A • Couse's Evaluation